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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,374	09/30/2003	Thomas McNulty	125640-1	5988

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GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

EXAMINER

ZIMMER, MARC S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,374

Applicant(s)

MCNULTY ET AL.

Examiner

Marc S. Zimmer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-24,26,27 and 34-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-24,26,27 and 34-40 is/are rejected.
- 7) ☒ Claim(s) 35-37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Objections

Claims 35-37 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 34 is directed to a process of making a ceramic core whereas claims 35-37 recite a method of using the ceramic core made by the process of claim 34. That is to say, the process steps outlined in these claims do not further define a method of making a core but, rather, its use. These claims should be restated as a, "method of making a turbine" that may restate the steps associated with making the core but also include the steps of using the core.

Claim Rejections - 35 USC § 112

Claims 17-24, 26-27, and 34-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant is advised that the Specification does not appear to support the notion that it is the ceramic slurry that has a viscosity in the specified range. More accurately, the Examiner believes that the silicone matrix (base polymer and crosslinker) alone, which represents one part of the slurry where the ceramic filler is the other part, has a viscosity of 1 to 1000 cs. Indeed, paragraph 38 of

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the Specification says that the uncured silicone matrix has a viscosity within this range, not the slurry.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17-19, 21-24, 27, 34, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Mine et al., U.S. Patent # 4,269,753 for the reasons outlined in a previous correspondence. The incorporation of solvents is disclosed in column 5, lines 44-45.

Claims 18, 21, 23, 34, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Atwell et al., U.S. Patent # 4,888,376 for the reasons outlined in a previous correspondence. Relevant to claim 38, Example 1 teaches the preparation of a paste containing solvent, polymer, and inorganic powders.

Claims 17-19, 21, 24, 34, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Schilling et al., U.S. patent # 5,162,480 for the reasons outlined in a previous correspondence.

In Applicant's response, it is emphasized that the claimed core has a very specific defined shape. The Examiner notes, however, that there is no description of any particular form taken by the core. Indeed, there is no mention of the capacity in

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which the core is used and, hence, not even an implication of shape is made by the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mine et al., U.S. patent # 4,269,753, Atwell et al., U.S. patent # 4,888,376, and/or Schilling et al., U.S. patent # 5,162,480 for the reasons outlined in a previous correspondence.

Claims 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schilling et al., U.S. Patent # 5,162,480 in view of Robb et al., U.S. Patent # 4,901,450, Lirones et al., U.S. patent # 3,957,715 and/or Applicant's admission in paragraph 2 that investment casting techniques are well known.

In column 6, lines 48-52, Schilling contemplates using the ceramic material that represents their invention for products of interest in the aerospace industry including "gas turbine blades, support structures, leading edges on spacecraft wings, and the like." This, in the Examiner's estimation, is suggestive of not only blades made from the ceramic material themselves but also of cores used in the manufacturing process for making blades from molten metal. *Schilling* does not outline the steps involved in making a turbine blade but the steps recited in claim 37 are typical of an investment

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casting process which, again, Applicant has already acknowledged are well known.

Robb et al and *Lirones et al*, which is cited by *Robb*, both describe in general terms an investment casting procedure. See, for instance, column 1, lines 14-41 of *Robb*.

Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mine et al., U.S. patent # 4,269,753. Mine does not specify at what point the solvent is removed but the skilled artisan will appreciate that it should be done only during or after step (d) as the slurry that is added to the core mold/die should be of a consistency that it readily flows and fills the cavity in step (c) and that characteristic is imparted by the presence of a diluent.

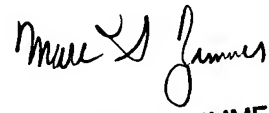
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

November 14, 2006


MARC S. ZIMMER
PRIMARY EXAMINER